



**UNITED STATES DEPARTMENT OF COMMERCE  
Patent and Trademark Office**

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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
09/248,980	02/12/99	ABE	N 862.2678

005514 WM51/1025  
FITZPATRICK CELLA HARPER & SCINTO  
30 ROCKEFELLER PLAZA  
NEW YORK NY 10112

EXAMINER
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LANEAU, R

ART UNIT	PAPER NUMBER
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2674

DATE MAILED:

10/25/00

12

**Please find below and/or attached an Office communication concerning this application or proceeding.**

**Commissioner of Patents and Trademarks**

# Office Action Summary

Application No.  
**09/248,980**

Applicant(s)

**Naoto Abe**

Examiner

**Ronald Laneau**

Group Art Unit

**2674**



☒ Responsive to communication(s) filed on Feb 12, 1999

☐ This action is **FINAL**.

☐ Since this application is in condition for allowance except for formal matters, **prosecution as to the merits is closed** in accordance with the practice under *Ex parte Quayle*, 35 C.D. 11; 453 O.G. 213.

A shortened statutory period for response to this action is set to expire 3 month(s), or thirty days, whichever is longer, from the mailing date of this communication. Failure to respond within the period for response will cause the application to become abandoned. (35 U.S.C. § 133). Extensions of time may be obtained under the provisions of 37 CFR 1.136(a).

## Disposition of Claim

☒ Claim(s) 35-48 is/are pending in the application

Of the above, claim(s) \_\_\_\_\_ is/are withdrawn from consideration

☐ Claim(s) \_\_\_\_\_ is/are allowed.

☒ Claim(s) 35-48 is/are rejected.

☐ Claim(s) \_\_\_\_\_ is/are objected to.

☐ Claims \_\_\_\_\_ are subject to restriction or election requirement.

## Application Papers

☐ See the attached Notice of Draftsperson's Patent Drawing Review, PTO-948.

☐ The drawing(s) filed on \_\_\_\_\_ is/are objected to by the Examiner.

☐ The proposed drawing correction, filed on \_\_\_\_\_ is ☐ approved ☐ disapproved.

☐ The specification is objected to by the Examiner.

☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. § 119

☒ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).

☒ All ☐ Some\* ☐ None of the CERTIFIED copies of the priority documents have been

☒ received.

☐ received in Application No. (Series Code/Serial Number) \_\_\_\_\_

☐ received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\*Certified copies not received: \_\_\_\_\_

☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

## Attachment(s)

☒ Notice of References Cited, PTO-892

☒ Information Disclosure Statement(s), PTO-1449, Paper No(s). 5, 7, 10

☐ Interview Summary, PTO-413

☐ Notice of Draftsperson's Patent Drawing Review, PTO-948

☐ Notice of Informal Patent Application, PTO-152

— SEE OFFICE ACTION ON THE FOLLOWING PAGES —

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## DETAILED ACTION

### *Claim Rejections - 35 USC § 103*

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 35-48 are rejected under 35 U.S.C. 103(a) as being unpatentable over the European Patent Application (0 421 712 B1) by Masaki et al.

As per claims 35, 46-48, Masaki et al disclose an image forming apparatus and modulating method. The multivalued input recording signal is subjected to pulse-width modulation at a time unit shorter than the period of a clock signal within the period of the recording signal. Alternatively, the multivalued input recording signal is converted into a number of different signals each of whose length of time is shorter than a clock signal within the period of the recording signal, thereby performing pulse-width-modulation. Further, Masaki et al disclose a pulse width modulating circuit for modulating a multivalued input signal (VDO) into a pulse signal (OPD) having a corresponding pulse width. The circuit comprising a clock generating means (10;31) for providing a first clock signal (CLK) and forming means (15;32) for forming a pulse width modulated signal (OPD) from said plurality of parallel binary signals (D1, D2; D1-D4) using said first clock signal (CLK) (see claim 1). Furthermore, Masaki et al disclose a flip-flop 17 see in figure 3 but Masaki et al do not disclose a plurality of flip-flops latching the pattern data as claimed but it would have been obvious to one of

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ordinary skill in the art to utilize a plurality of flip-flops connected in series as to latch the pattern data of the first clock signal because it would provide a simply constructed image forming apparatus, and a modulating method in which it is possible to form a highly toned image.

As per claims 36-38, Masaki et al disclose an image forming apparatus which includes a first clock signal and a pulse width modulation signal but do not disclose a first clock signal which has an output pattern for releasing or relieving a state of gamma correction for an input image signal but it would have been obvious to include a gamma correction in the clock signal taught by Masaki et al for the same reasons given in previous claims.

As per claims 39, and 40, the image forming apparatus taught by Masaki et al comprises a plurality of devices for forming an image by light emission, arranged in a matrix as claimed.

As per claims 41-45, it is well known in the art that an image forming device is capable of emitting a light by emitting electrons and emitting light from a light emission member so as to form an image. The device is a surface-conduction type emission which is a Field Emission (FE) type electron emission device and which is a Metal/Insulator/Metal (MIM) type.

3. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. European Patent Application (0 421 712 A2), Seto et al (5,379,126), Masaki et al (5,488,487).

4. **Any response to this action should be mailed to:**

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Commissioner of Patents and Trademarks

Washington, D.C. 20231

**or faxed to:**

(703) 308-9051, (for formal communications; please mark "EXPEDITED  
PROCEDURE")

**Or:**

(703) 305-308-6606, (for informal or draft communications, please label  
"PROPOSED" or "DRAFT")

Hand-delivered responses should be brought to Crystal Park II, 2121 Crystal Drive, Arlington, VA.,  
Sixth Floor (Receptionist).

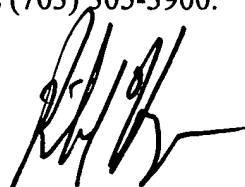
5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ronald Laneau whose telephone number is (703) 305-3973. The examiner can normally be reached on Monday-Friday from 8:30 am to 6:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Richard Hjerpe, can be reached on (703) 305-4709.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (703) 305-3900.

Ronald Laneau

October 14, 2000



RICHARD A. HJERPE  
SUPERVISORY PATENT EXAMINER  
GROUP 2700